



Sea-Bird Scientific  
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SENSOR SERIAL NUMBER: 2327  
 CALIBRATION DATE: 17-Mar-22

SBE 21 TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

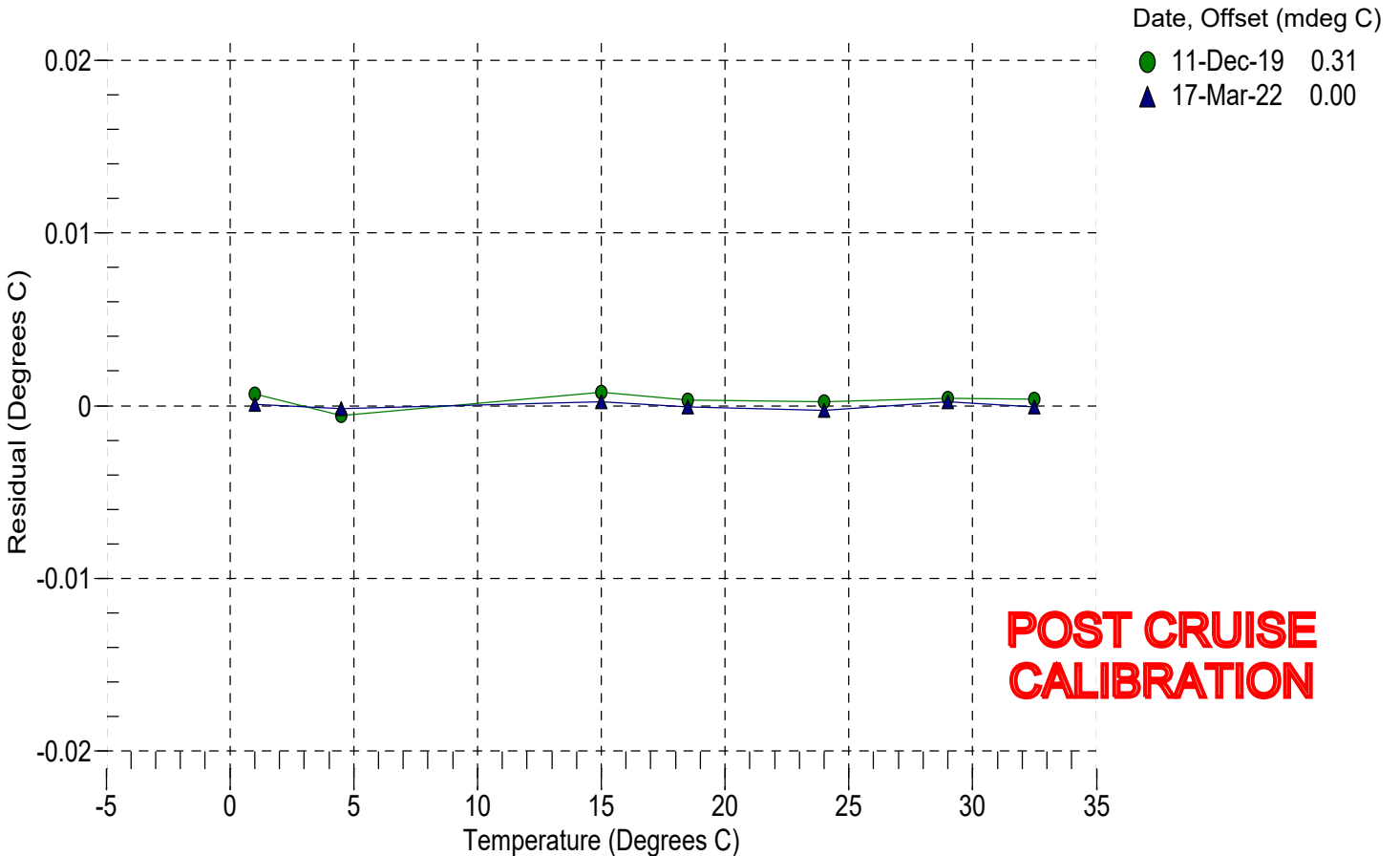
g = 4.28466381e-003  
 h = 6.35419603e-004  
 i = 1.93565828e-005  
 j = 1.59141760e-006  
 f0 = 1000.0

BATH TEMP (° C)	INSTRUMENT OUTPUT (Hz)	INST TEMP (° C)	RESIDUAL (° C)
0.9999	2807.321	1.0000	0.00008
4.4998	3031.111	4.4996	-0.00017
14.9999	3778.737	15.0001	0.00024
18.5000	4054.379	18.4999	-0.00005
24.0000	4515.421	23.9997	-0.00025
29.0000	4965.011	29.0002	0.00021
32.5000	5297.347	32.4999	-0.00006

f = Instrument Output (Hz)

$$\text{Temperature ITS-90 (°C)} = 1 / \{g + h[\ln(f_0 / f)] + i[\ln^2(f_0 / f)] + j[\ln^3(f_0 / f)]\} - 273.15$$

Residual (°C) = instrument temperature - bath temperature





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SBE 21 CONDUCTIVITY CALIBRATION DATA  
 PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -4.04489377e+000      CPcor = -9.5700e-008 (nominal)  
 h = 4.77050645e-001      CTcor = 3.2500e-006 (nominal)  
 i = -1.31243141e-004  
 j = 3.15960397e-005

BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (kHz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2.91221	0.00000	0.00000
0.9999	34.6448	2.96269	8.39152	2.96269	-0.00000
4.4998	34.6249	3.26842	8.76286	3.26843	0.00000
14.9999	34.5822	4.24591	9.85521	4.24591	-0.00000
18.5000	34.5729	4.58955	10.21099	4.58955	-0.00000
24.0000	34.5626	5.14504	10.76072	5.14504	-0.00000
29.0000	34.5564	5.66452	11.24997	5.66454	0.00002
32.5000	34.5491	6.03464	11.58558	6.03463	-0.00001

f = Instrument Output (kHz)

t = temperature (°C); p = pressure (decibars);  $\delta$  = CTcor;  $\epsilon$  = CPcor;

$$\text{Conductivity (S/m)} = (g + h * f^2 + i * f^3 + j * f^4) / 10 (1 + \delta * t + \epsilon * p)$$

Residual (Siemens/meter) = instrument conductivity - bath conductivity

